DWeb Weekend 2025 - Saturday 8/16/2025

Roundtable Discussion 3.3

Title: *P2P for multiplayer games*
Time: *15:30 - 16:15*
Attendees: *X, Y*
Note taker: *Z*

Please add your /initials/ at the front of a comment

General Notes

Question: What do you all know about networking in games?

- Latency low (like your playing offline)
- depeneds on whether its real time or turn based
    - how frame-perfect is the gameplay (is it a shooter or something much more slowpaced)
- pick UDP or TCP based on if you think the latency for TCP is acceptabl.
- Also cloud gaming is a thing
- Mostly client-server
  Peer to peer is usually from 1 to 4 players.
- too many connections for peer to peer
- more than 4, is tough to deal with lag compensation and whatnot
- a lot harder to prevent cheating with peer to peer
- everything HAS to be deterministic, only share inputs
- Photon Quantum exists though
- photonengine.com/quantum (http://photonengine.com/quantum)
- For client-server, you trust the host

- CRDT - validates inputs https://en.wikipedia.org/wiki/Conflict-free_replicated_data_type (https://en.wikipedia.org/wiki/Conflict-free_replicated_data_type)
    - all cients converge on the same game state
- if one peer has poor network, they can destroy a peer to peer
- Destiny does a sort of hybrid between client-server and peer to peer (peers and servers)
- pre-internet, there were games that were played with groups and Peer to Peer.
- West Marches Dungeons and Dragon might be more useful as a model
- you cannot have the same client-server user experience in peer to peer
    - So figure out what games can work well in a peer to peer context
- what would a Peer to Peer MMO look like?
    - In Holochain - they have a Tabletop Simulator type thing
    - the rules are in people heads
    - old school MUDs, but in a peer to peer context
- two tracks
    - Either approximate client-server using peer to peer
    - Or figure out how to do interesting multiplayer games using peer to peer. https://theweave.social/wal?weave-0.14://invite/5da8ce9f-a5db-4ff3-9107-e4b1745890ee&progenitor=null (https://theweave.social/wal?weave-0.14://invite/5da8ce9f-a5db-4ff3-9107-e4b1745890ee&progenitor=null)

Summary to be reported to the other DWeb Weekend participants

a) Peer to Peer in small groups is fine for reduced latency

b) You have to design the game around peer to peer

c)

name of the reporter